21

REMARKS/ARGUMENTS

Claims 1-66 are pending in this application. Claims 1-50 stand rejected. New claims 51-66 have been added herein and none of these new claims contain new matter. Support for new claims 51-66 can be found, at least, in Applicants' specification at paragraphs 37-56 and in FIGS. 6, 7A-7D, and 8A-8D.

Applicants thank the Examiner for the telephone conference held with the undersigned on July 14, 2006, in which claim 1 and the Hu and Lee references were discussed. During the conference, the Examiner indicated that the application was likely in condition for allowance in its current form because neither reference disclosed at least the two "determine" operations for which the network processing unit recited in Applicants' claim 1 is configured to perform. Applicants respectfully request reconsideration of this application.

Rejection of claims 1-50 under 35 U.S.C. 103(a)

The Examiner rejected Claims 1-50 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,535,518 to Hu et al. (hereinafter, Hu) in view of U.S. Patent No. 6,894,979 to Lee et al. (hereinafter, Lee) and U.S. Patent No. 6,828,905 to Rao (hereinafter, Rao). Applicants respectfully traverse this rejection for at least the reasons discussed below.

Applicants respectfully submit that the combination of Hu, Lee, and Rao proposed by the Examiner fails to disclose, teach, or suggest each of the elements recited in Applicants' claims. For example, the Hu, Lee, and Rao combination fails to disclose, teach, or suggest at least the following elements specifically recited Claim 1:

an application specific integrated circuit configured to:
determine that an incoming packet requires protocol conversion; and
send at least a portion of the incoming packet to a network processing unit in response to the determination; and
the network processing unit configured to:

233-585-USP

22

identify a first communication protocol of the incoming packet, the incoming packet destined for a destination port associated with a second communication protocol;

determine if the first communication protocol matches the second communication protocol;

determine if the first communication protocol and the second communication protocol have a common layer if the first communication protocol does not match the second communication protocol; and

encapsulate the incoming packet in the second communication protocol if the first communication protocol and the second communication protocol have a common layer.

First, Hu fails to disclose, teach, or suggest the elements of Applicants' claim 1 recited above. In the Office action, the Examiner admitted that Hu does not expressly show the details of protocol conversion. (4/21/06 Office Action, p. 2.) Additionally, the Examiner also admitted that Hu fails to show the above operations for which the network processing unit is configured to perform as recited in Applicants' claim 1, including "identify a first communication protocol of an incoming packet, the incoming packet destined for a destination port associated with a second communication protocol; determining if the first communication protocol matches the second communication protocol, determine if the first communication protocol and the second communication protocol have a common layer if the first communication protocol does not match the second communication protocol, and encapsulating the incoming packet in the second communication protocol if the first communication protocol and the second communication protocol have a common layer." (4/21/06 Office Action, pp. 2-3.) In addition, the Examiner also admitted that Hu fails to expressly show an application specific integrated circuit (ASIC) to determine that an incoming packet requires protocol conversion and send at least a portion of the incoming packet to a network processing unit in response to the determination and the network processing unit. (4/21/06 Office Action, p. 3.)

In addition, Hu fails to disclose, teach, or suggest that the recited ASIC is configured to "determine that an incoming packet requires protocol conversion" and "send at least a portion of the incoming packet to a network processing unit in

23

response to the determination," and that the recited network processing unit is configured to perform the recited protocol conversion operations recited in Claim 1.

Second, Lee fails to disclose, teach, or suggest each of the elements recited in Applicants' claim 1. In particular, Lee does not disclose a device that makes any determination about a protocol before performing a protocol conversion. As recited in Applicants' claim 1, the network processing unit is configured to, "determine if the first communication protocol matches the second communication protocol," and then "determine if the first communication protocol and the second communication protocol have a common layer if the first communication protocol does not match the second communication protocol." Lee does not disclose either of the "determining" operations recited in Applicants' claim 1. Lee performs an automatic conversion (at router 12) into a format consistent with protocol 2 without making any determination about the protocols. Col. 5, lines 6-11.

Lee discloses automated testing of multiple-protocol network environments. (Abstract.) According to Lee:

> FIG. 4 depicts the server 10, router 12 and hub 14 of the system illustrated in FIG. 1. These components are illustrated to depict the conversion of data originally transmitted by server 10 according to protocol 1 into a format which is consistent with protocol 2 so that the data can be received by hub 14. This conversion is performed by router 12.

(Column 5, lines 6-11.) Lee, however, does not disclose the components of the router and how the components perform the protocol conversion. Thus, Lee does not disclose an ASIC configured to "determine that an incoming packet requires protocol conversion and send at least a portion of the incoming packet to a network processing unit in response to the determination" and a network processing unit that performs the protocol conversion operations recited in Applicants' claim 1. Accordingly, Lee, even when combined with Hu as proposed by the Examiner, does not disclose, teach, or suggest an application specific integrated circuit configured to "determine that an incoming packet requires protocol conversion" and "send at least

233-585-USP

24

a portion of the incoming packet to a network processing unit in response to the determination," and a network processing unit configured to perform the protocol conversion as recited in Applicants' claim 1.

The Examiner also argues that Rao teaches "the well known method of using a single chip protocol conversion feature to reduce the cost and simplify cable connections." The Examiner further contends that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the network system/method of Hu for bypassing a server to achieve higher throughput between data network and data storage systems to convert data from one protocol to another as taught by Lee and to use an ASIC chip to facilitate a single chip protocol conversion among the various connectors as taught by Rao.

As discussed above, Applicants' claim 1 recites an ASIC configured to "determine that an incoming packet requires protocol conversion; and send at least a portion of the incoming packet to a network processing unit in response to the determination." The ASIC disclosed in Rao, however, is used to perform protocol conversions. See, e.g., Abstract and column 4, lines 42-44. Rao does not, however, disclose, teach, or suggest an ASIC that is configured to "determine that an incoming packet requires protocol conversion and send at least a portion of the incoming packet to a network processing unit in response to the determination."

Thus, the combination of Hu, Lee, and Rao fail to disclose, teach, or suggest several limitations recited in Applicants' claim 1. In particular, none of the cited references disclose, teach, or suggest at least the following:

an ASIC configured to determine that an incoming packet requires protocol conversion; and send at least a portion of the incoming packet to a network processing unit in response to the determination; and

a network processing unit configured to

Identify a first communication protocol of the incoming packet, the incoming packet destined for a destination port associated with a second communication protocol;

25

determine if the first communication protocol matches the second communication protocol;

determine if the first communication protocol and the second communication protocol have a common layer if the first communication protocol does not match the second communication protocol; and

encapsulate the incoming packet in the second communication protocol if the first communication protocol and the second communication protocol have a common layer.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 1, and that claim 1 be allowed.

The dependent claims 2-13 are allowable based on their dependence on the independent claim 1, and further because they recite numerous additional patentable distinctions over the references of the rejection. Because Applicants believe they have amply demonstrated the allowability of the independent claim 1 over the references of the rejection, and to avoid burdening the record, Applicants have not provided detailed remarks concerning these dependent claims. Applicants, however, remain ready to provide such remarks if it becomes appropriate to do so.

For at least similar reasons, Applicants respectfully request reconsideration and allowance of Independent Claims 14-17, 26, 30, 44, and 46 and all claims that depend on these claims.

New Claims 51 – 66

Claims 51 – 66 have been added herein and are not believed to contain any new matter. Support for these claims can be found, at least, in Applicants' specification at paragraph 37 and in FIG. 6. Further support for the TCP-proxy limitation of these claims can be found in Applicants' specification at paragraphs 48-56 and in FIGS. 8A-8D. Further support for the block storage conversion limitation of these claims can be found in Applicants' specification at paragraphs 38-47 and in FIGS. 7A-7D.

26

Claims 51 & 52 depend from claim 1. Claims 53 & 54 depend from claim 14. Claims 55 & 56 depend from claim 15. Claims 57 & 58 depend from claim 16. Claims 59 & 60 depend from claim 17. Claims 61 & 62 depend from claim 26. Claims 63 & 64 depend from claim 30. Claims 65 & 66 depend from claim 44.

Claims 51, 53, 55, 57, 59, 61, 63, and 65 recite a network processing unit further configured to, "determine if the first communication protocol and the second communication protocol have TCP-like functionality if the first communication protocol and the second communication protocol have a common layer; and perform TCP-proxy function if the incoming packet has TCP-like functionality." Further support for the TCP-proxy limitation of these claims can be found in Applicants' specification at paragraphs 48-56 and in FIGS. 8A-8D. Claims 52, 54, 56, 58, 60, 62, 64, and 66 recite a network processing unit further configured to, "determine if the first communication protocol and the second communication protocol have TCP-like functionality if the first communication protocol and the second communication protocol have a common layer; and perform block storage conversion if the incoming packet does not have TCP-like functionality." Further support for the block storage conversion limitation of these claims can be found in Applicants' specification at paragraphs 38-47 and in FIGS. 7A-7D.

As argued above, neither Hu nor Lee disclose or suggest making a "determination" about the protocols, much less disclose performing the TCP-proxy function or block storage conversion based upon the whether or not the protocols have a common layer. Thus dependent claims 51-66 are believed to be allowable at least because they depend from allowable independent claims.
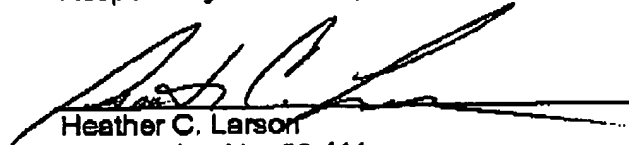
233-585-USP

27

CONCLUSION

This Amendment is being submitted in response to and is believed to be fully responsive to the Examiner's Office Action dated April 21, 2006. Applicants have made an earnest attempt to place this case in condition for allowance. Given the above Remarks, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Applicants believe no fees or petitions are due with this filing. However, should any such fees or petitions be required, please consider this a request therefore and authorization to charge Deposit Account No. 50-3199 as necessary.

If the Examiner believes that a telephone conference could expedite the prosecution of the application, please contact the undersigned attorney.

Dated: July 21, 2006.

Respectfully submitted,

Heather C. Larson
Registration No. 50,411

Attorney for Applicant
USPTO Customer No. 48929

HENSLEY KIM & EDGINGTON, LLC
1660 Lincoln Street, Suite 3050
Denver, Colorado 80264
Tel: 720-377-0770
Fax: 720-377-0777

BEST AVAILABLE COPY